IT IS CLAIMED:

1. A method of liposome-based therapy for a mammalian subject, comprising

systemically administering to the subject, liposomes with outer surfaces that contain (i) an affinity moiety effective to bind specifically to a target surface at which the therapy is aimed, and (ii) a hydrophilic polymer coating effective to shield the affinity moiety from interaction with the target surface, said hydrophilic polymer coating being made up of polymer chains which are covalently linked to surface lipid components in the liposomes through releasable linkages,

allowing the administered liposomes to circulate systemically until a desired biodistribution of the liposomes is achieved, and

administering a releasing agent to the subject, in an amount effective to cause release of a substantial portion of said linkages in the administered liposomes, thereby to expose the affinity moiety to the target surface.

2. The method of claim 1, wherein said releasable linkages are reducible chemical linkages selected from the group consisting of disulfide, ester and peptide.

3. The method of claim 2, wherein said releasable linkages are disulfide linkages and the releasing agent is selected from the group consisting of cysteine, glutathione and ascorbate.

4. The method of claim 1, wherein said releasable linkages are selected from the group consisting of pH sensitive linkages, heat sensitive linkages and light sensitive linkages.

5. The method of claim 1, wherein said hydrophilic polymer is selected from the group consisting of polyvinylpyrrolidone, polyvinylmethylether, polymethyloxazoline, polyethyloxazoline, polyhydroxypropyloxazoline, polyhydroxypropyl-methacrylamide, polymethacrylamide, polydimethyl-acrylamide, polyhydroxypropylmethacrylate, polyhydroxyethylacrylate, hydroxymethylcellulose, hydroxyethylcellulose, polyethyleneglycol, and polyaspartamide.

6. The method of claim 5, wherein the hydrophilic polymer chains are polyethylene glycol chains having molecular weights in the range 500 to 10,000 daltons.

7. The method of claim 1, for administering a therapeutic agent to target cells, wherein the affinity moiety is a ligand effective to bind specifically with a cell-surface receptor on the target cells, and the liposomes further include the therapeutic agent in entrapped form.

8. The method of claim 7, for treatment of a solid tumor, wherein the affinity moiety is effective to bind specifically to a tumor-specific antigen, the liposomes have an average size between 30-400 nm, and the releasing agent is administered to the subject after the liposomes have extravasated into the tumor.

9. The method of claim 7, for treatment at a site of inflammation, wherein the affinity moiety is effective to bind specifically to infected cells, the liposomes have an average size between 30-400 nm, and the releasing agent is administered after the liposomes have extravasated at the site of inflammation.

10. The method of claim 1, wherein the affinity moiety is a polypeptide or polysaccharide effector capable of inhibiting binding of a first binding member, which is a pathogen or cell in the bloodstream, to a second binding member, which is a target cell or cell matrix.

11. The method of claim 10, wherein the affinity moiety is selected from the group consisting of:

(a) a CD4 glycoprotein;

(b) a polysaccharide which binds to endothelial leukocyte adhesion molecule (ELAM);

(c) polymyxin B or polymyxin B decapeptide; and

(d) a peptide.

12. The method of claim 1, wherein the liposomes further include such affinity moieties attached to distal ends of a portion of the hydrophilic polymer chains forming the hydrophilic polymer coating.

13. A liposome composition for use in treating a subject with an affinity moiety capable of inhibiting binding of a first binding member, which is a pathogen or cell in the bloodstream, to a second binding member, which is a target cell or cell matrix, comprising

liposomes having outer surfaces that contain (i) a hydrophilic polymer coating composed of polymer chains that are covalently linked to surface lipid components in the liposomes through releasable linkages, and (ii) said affinity moiety bound to the outer surfaces of said liposomes, such that the affinity moiety is shielded by said hydrophilic polymer coating from interaction with such binding members and is exposed for interaction with such binding members when the hydrophilic polymer coating is released.

14. The composition of claim 13, wherein said releasable linkages are reducible chemical linkages selected from the group consisting of disulfide, ester and peptide.

15. The composition of claim 14, wherein said releasable linkages are disulfide linkages and the releasing agent is selected from the group consisting of cysteine, glutathione and ascorbate.

16. The composition of claim 13, wherein said releasable linkages are selected from the group consisting of pH sensitive linkages, heat sensitive linkages and light sensitive linkages.

17. The composition of claim 13, wherein affinity moiety is selected from the group consisting of:

(a) a CD4 glycoprotein;

(b) a polysaccharide which binds to endothelial leukocyte adhesion molecule (ELAM);

(c) polymyxin B or polymyxin B decapeptide; and

(d) a peptide.

18. The composition of claim 13, wherein said hydrophilic polymer is selected from the group consisting of polyvinylpyrrolidone, polyvinylmethylether, polymethyloxazoline, polyethyloxazoline, polyhydroxypropyloxazoline, polyhydroxypropylmethacrylamide, polymethacrylamide, polydimethylacrylamide, polyhydroxypropylmethacrylate, polyhydroxyethylacrylate, hydroxymethylcellulose, hydroxyethylcellulose, polyethyleneglycol, and polyaspartamide.

19. The composition of claim 18, wherein the hydrophilic polymer chains are polyethylene glycol chains having molecular weights in the range 500 to 10,000 daltons.